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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/020,594	12/13/2001	Jurgen Schredl	70408	7149
23872	7590	03/29/2005	EXAMINER	
MCGLEW & TUTTLE, PC 1 SCARBOROUGH STATION PLAZA SCARBOROUGH, NY 10510-0827			TRAN, LEN	
			ART UNIT	PAPER NUMBER
			1725	

DATE MAILED: 03/29/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/020,594

Applicant(s)

SCHREDL ET AL.

Examiner

Len Tran

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 02 December 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☐ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: _____

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1a. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 12/2/04 has been entered.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

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3. Claims 1-9, 12-15, and 17-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Leicht et al(US 5,551,627), and further in view of Gotman (US 4,404,453).

Leicht et al disclose the process for producing a contact structure for connecting two substrates comprising the steps of applying solder material to terminal to form spacing metallizations, and bonding the first substrate to the second substrate, wherein the solder is a spherical shape (figure 3, col. 4, lines 5-9). An adhesive compound is applied to the solder (col. 4, lines 40-51).

Leicht et al fail to disclose partially fusing the solder with a laser energy.

However, Gotman discloses using laser energy to partially melt the solder (col. 3, lines 19-22) for the purpose of avoiding or minimizing any damage to the parts being attached together (col. 2, lines 35-40). In addition, Gotman discloses heating the solder (72) to become partially liquefied and then fusion takes place, in which during the bonding action (col. 4, lines 18-36).

Therefore, it would have been obvious to one of ordinary skill in the art at the time applicant's invention was made to provide a laser heating means to partially melt the solder as taught by Gotman, in Leicht et al in order to prevent any damage to the parts.

4. Claims 10, 11, and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Leicht et al (US 5,551,627), and further in view of Beddingfield et al (US 5,710,071).

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Leicht et al disclose the claimed invention above in paragraph 3, but fail to teach filling the gap between the substrates with a filler material.

However, Beddingfield et al disclose applying a filler (encapsulant) material in the gap of the substrates for the purpose of expelling any trap air and to prevent the chip from warping (abstract).

Therefore, it would have been obvious to one of ordinary skill in the art at the time applicant's invention was made to have filler material in between the substrates as taught by Beddingfield et al, in Leicht et al in order to expel air and prevent warping.

Response to Arguments

5. Applicant's arguments filed on July 01, 2004 have been fully considered but they are not persuasive.

Applicant argues that Gotmann fails to teach partially melting the solder during the bonding action. However, examiner respectfully disagrees, since in column 4, lines 18-36, Gotmann discloses partially melting the solder and then fusion takes place. Therefore, the solder is partially melted during the bonding action.

Applicant argues that the applied prior arts fail to teach a partial fusion of the spacing metallization. However, examiner respectfully disagrees, since the claimed language with the broadest interpretation is not defined over the prior arts of record. .

Inquiry

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Len Tran whose telephone number is (571) 272-1184. The examiner can normally be reached on M-F, 8:30 - 5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tom Dunn can be reached on (571) 272-1171. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Len Tran
Examiner
Art Unit 1725



March 24, 2005